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| 09/801,659 | 03/09/2001 | Masahiro Ohki | Q63331 | 4106 |

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Washington, DC 20037

EXAMINER

MACE, BRAD THOMAS

ART UNIT PAPER NUMBER

2663

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,659

Applicant(s)

OHKI, MASAHIRO

Examiner

Brad T. Mace

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 6-9 is/are rejected.
- 7) ☒ Claim(s) 3-5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The abstract of the disclosure is objected to because "as" should be "by" on line 15. Correction is required. See MPEP § 608.01(b).
3. The disclosure is objected to because of the following informalities: "the one of" should be removed from line 15 of pg. 1. "a" should be removed on line 13 of pg. 1. "300" should be "30" on line 6 of pg. 4. "409" should be "419" on line 19 of pg. 4. "400" should be "460" on line 10 of pg. 6. "409" should be "419" on line 7 of pg. 7. "become" should be "becomes" on line 18 of pg. 7. "having" should be placed between "side" and "the" on line 26 of pg. 11. "stores" should be "storing" on line 5 of pg. 12. "Referring to Figure 4" should be added between "invention" and "the" on line 13 of Figure 13. "301" should be "350" on line 12 of pg. 15. "by" is missing between "control" and "the" on line 25 of pg. 18. Appropriate correction is required.

Claim Objections

4. Claims 6, 8, and 9 are objected to because of the following informalities: "air plane" should be "airplane" on line 2 of claim 6. "to" should be added between "communicating" and "a" on line 2 of claim 8 and on line 2 of claim 9. Appropriate correction is required.

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of U.S. Publication No. 2002/0067711 (Kobayashi).

Regarding claim 1:

7. The admitted prior art discloses a wireless internet access system (see Figure 1) wherein a flying object is connected with an earth station connected with an internet (see Figure 1, references 10, 50, and 60), wherein the flying object comprises a LAN (see Figure 1, reference 20), a flying router connected with the LAN for communicating bi-directionally with the earth station (see Figure 1, references 30, 20, 50 and the arrows between 50 and 10), and user's terminals connected with the LAN (see Figure 1, references 40 and 20). The earth station comprises an antenna for tracking the flying object (see Figure 1, reference 50), antenna control means for controlling the direction of the antenna (paragraph [0020]), an antenna beacon signal receiver connected with the antenna (paragraph [0020]), a modem connected with the antenna beacon signal receiver (see Figure 7, references 460 and 300), and an earth router for accessing the internet (see Figure 7, reference 800). However, the admitted prior art does not disclose expressly timing separation means for separating the receiving timing of data transmitted by the flying object from the control timing of the direction of the antenna, when the receiving timing overlaps with the control timing (in the earth station).

Kobayashi discloses a wireless LAN system having a master station connected to a LAN and having an antenna, which is connected wirelessly to a satellite station having an antenna, which is associated with a data terminal (see Figure 2). The satellite station (earth station) generates a random-back off time for transmitting a control frame after detecting a collision between data and control frames, thus avoiding degradation or loss of frames. The control information is used to help to determine the direction of the antenna, and when the determination of an antenna direction is at the time of normal data frame communication, the control frame is sent to the detecting/storing unit. The random back-off timer is set so that a control frame is not transmitted for some random time, thus avoiding overlap with normal data frames. (see paragraphs [0079] and [0081]).

A person of ordinary skill in the art would have been motivated to employ Kobayashi in the admitted prior art in order to obtain a wireless internet/LAN system that that has a satellite station (earth station) that does not overlap the timing of control data and normal data so that control and data information is properly received. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Kobayashi with the admitted prior art (collectively admitted prior art-Kobayashi) to obtain the invention as specified in claim 1. The suggestion motivation to do so would have been to separate the timing of the control data and normal data so as to avoid collisions, thus avoiding the loss of information.

Regarding claim 2:

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8. The admitted prior art discloses substantially all the claimed modified invention as specified above, however, does not disclose expressly wherein the timing separation means delays the control timing, compared with the receiving timing.

Kobayashi discloses setting a random-back off time (delaying) for transmitting a control frame after detecting a collision between data and control frames (paragraph 0079).

A person of ordinary skill in the art would have been motivated to employ Kobayashi in the admitted prior art in order to obtain a wireless internet/LAN system that that has a satellite station (earth station) that delays (using a random-back off time) the timing of control data so that the timing of the control data and normal data is not at the same time. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Kobayashi with the admitted prior art (collectively admitted prior art-Kobayashi) to obtain the invention as specified in claims 1 and 2. The suggestion motivation to do so would have been to delay (using the random back-off time) the timing of the control data from the normal data so as to avoid collisions, thus avoiding the loss of information.

Regarding claim 6:

9. The admitted prior art further discloses wherein the flying object is an airplane (paragraph [0008]).

Regarding claim 7:

10. The admitted prior art further discloses wherein the flying router comprises an internal router connected with the LAN (see Figure 8, reference 850, which is connected

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to the LAN as indicated by the bi-directional arrow), a flying modem connected with the flying router (see Figure 8, references 600 and 850), a beacon signal generator for generating a beacon signal (see Figure 8, reference 700), and a flying antenna for transmitting said beacon signal and for communicating bi-directionally with the earth station (see Figure 8, see reference 500, which communicates the signal from the antenna beacon signal generator 700, and see Figure 1, where the flying router in the flying object has an antenna and communicates bi-directionally with earth station 50).

Regarding claim 8:

11. The admitted prior art discloses an earth station connected with an internet for communicating to a LAN on a flying object (see Figure 1, references 50, 60, 20, and 10), which comprises an antenna for tracking the flying object (see Figure 1, reference 50), and antenna control means for controlling the direction of the antenna (paragraph [0020]). However, the admitted prior art does not disclose expressly postponing means for generating a disable signal for postponing the controlling until the earth station completes receiving data in a frame transmitted by the flying object, when the timing of receiving the data in the frame transmitted by the flying object overlaps with the timing of receiving a beacon signal transmitted by the flying object.

Kobayashi discloses a satellite station (earth station) that generates a random-back off time (postponing means, and thus a (disable) signal must be generated in order to set the random back-off time) for transmitting a control frame after detecting a collision between data and control frames, thus avoiding degradation or loss of frames. The control information (beacon signal) is used to help to determine the direction of the

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antenna, and when the determination of an antenna direction is at the time of normal data frame communication, the control frame is sent to the detecting/storing unit. The random back-off timer is set so that a control frame is not transmitted for some random time, thus avoiding overlap with normal data frames (thus the random back-off time is set again when it is detected that the timing of the control and the normal data is the same, hence the control data timing is postponed until the satellite station completes receiving the normal data) (see paragraphs [0079] and [0081]).

A person of ordinary skill in the art would have been motivated to employ Kobayashi in the admitted prior art in order to obtain a wireless internet/LAN system that that has a satellite station (earth station) that does not overlap the timing of control data and normal data so that control and data information is properly received. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Kobayashi with the admitted prior art (collectively admitted prior art-Kobayashi) to obtain the invention as specified in claim 8. The suggestion motivation to do so would have been to separate the timing of the control data and normal data so as to avoid collisions, thus avoiding the loss of information.

Regarding claim 9:

12. The admitted prior art discloses an earth station connected with an internet for communicating to a LAN on a flying object (see Figure 1, references 50, 60, 20, and 10), which comprises an antenna for tracking the flying object (see Figure 1, reference 50), and antenna control means for controlling the direction of the antenna (paragraph

[0020]), a modem for modulating and demodulating signals to and from the flying object (see Figure 9, references 403, 404), and a router connected with the MODEM for accessing to the internet (see Figure 7, references 460, and 800). However, the admitted prior art does not disclose expressly accumulation means for storing a beacon signal transmitted by the flying object, disable signal generation means for making a disable signal active, when the modem detects a start delimiter in a preamble of a frame transmitted by the flying object, and for outputting the active disable signal, and antenna control start means for prohibiting the controlling on the basis of the active disable signal, when the timing of receiving data in the frame overlaps with the timing of receiving the beacon signal, for allowing the antenna beacon signal to be stored into the accumulation means, and for starting the controlling, when the modem completes receiving the data in the frame.

Kobayashi discloses a satellite station (earth station) that generates a random-back off time (postponing means, and thus a (disable) signal must be generated in order to set the random back-off time), when the error checking unit (modem) detects an error (start delimiter) in a frame. The control information is used to help to determine the direction of the antenna, and when the determination of an antenna direction is at the time of normal data frame communication, the control frame is sent to the detecting/storing unit and is not transmitted during the random back-off time (when an error is detected, thus generating an active disable signal). The random back-off timer is set so that a control frame (beacon signal) is not transmitted for some random time, thus avoiding overlap with normal data frames. The control information is stored into a

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detecting/storing unit (accumulation means) and the control information is transmitted (started) when the random back-off time expires and when the error checking unit finds no new errors (thus meaning receiving normal data is complete) (see paragraphs [0079] and [0081]).

A person of ordinary skill in the art would have been motivated to employ Kobayashi in the admitted prior art in order to obtain a wireless internet/LAN system that that has a satellite station (earth station) that does not overlap the timing of control data and normal data so that control and data information is properly received. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Kobayashi with the admitted prior art (collectively admitted prior art-Kobayashi) to obtain the invention as specified in claim 9. The suggestion motivation to do so would have been to separate the timing of the control data and normal data so as to avoid collisions, thus avoiding the loss of information.

Allowable Subject Matter

13. Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

*McKenna et al. discloses an aircraft-based network for wireless subscriber

stations.

*Monroe discloses network communication techniques for security surveillance and safety system.

*Toporek et al. discloses a method and system for controlling data flow in an internet over satellite connection.

*Shuen discloses a mobile networking method and apparatus

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brad T. Mace whose telephone number is (571) 272-3128. The examiner can normally be reached on Monday -Thursday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btm

Brad T. Mace
Examiner
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btm


RICKY NGO
PRIMARY EXAMINER
9/17/04

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